



PATENT MAINTENANCE  
DIVISION

DEP & REF

PATENT  
P56668

2006 JUL 24 PM 5:03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

US PATENT & TRADEMARK  
OFFICE

In re Application of:

LYNN G. HILDEN

Serial No.: 10/085,069

Examiner: BERGIN, JAMES S.

Filed: 1 March 2002

Art Unit: 3641

For: RAPID DEFLAGRATION CORD (RDC) ORDNANCE TRANSFER LINES

**REQUEST FOR REFUND**

**Mail Stop : 16**

**Attn: Refund**

Director of the U.S. Patent & Trademark Office  
2051 Jamieson Ave, Suite 300  
Alexandria, VA 22314

Sir:

Applicant respectfully request for refund of \$100.00 under fee code [1202] overcharged on 23 June 2006 in the above-referenced application for the reason as follows:

Applicant filed Amendment and Response to Restriction Requirement on 19 June 2006 in response to the restriction requirement set forth in the Office action of Paper Number 20060514 mailed on 19 May 2006. Applicant added claims 66 and 67 in that Amendment and Response to Restriction Requirement filed on 19 June 2006 with the total number of claims of thirty-five (35), including two (2) independent claims. When Applicant first filed this application to the United States Patent & Trademark Office on 1 March 2002, Applicant paid for fifteen (15) claims in excess of twenty (20) claims, which would give Applicant to claim thirty-five (35) claims without incurring additional fee during prosecution. Consequently, Applicant specifically stated in the last paragraph

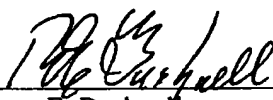
Adjustment date: 08/09/2006 SDIRETA1  
06/23/2006 DBATES 00000004 024943 10085069  
01 FC:1202 100.00 CR

of Amendment and Response to Restriction Requirement filed on 19 June 2006 that "...this Amendment/Response does *not* incur additional fee." Therefore, the claims in excess of twenty fee \$100.00 was not necessary, and the amount \$100.00 should be refunded.

Accordingly, the Commissioner is respectfully requested to immediately refund \$100.00 under fee code [1202] overcharged on 23 June 2006 to Applicant's undersigned attorney's Deposit Account No. 02-4943.

**Please refer the attached documents for the above-reference patent application.**

Respectfully submitted,

  
Robert E. Bushnell  
Attorney for Applicant  
Reg. No.: 27,774

1522 "K" Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 408-9040

Folio: P56668

Date: 21 July 2006

I.D.: REB/ks

Enclosures: 1. A copy of Fee transmittal and check #42120 filed on 1 March 2002  
2. A copy of Amendment and Response to Restriction Requirement filed on 19 June 2006  
3. A copy of Monthly Statement of Deposit Account dated 6/30/06

ROBERT E. BUSHNELL  
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CITIBANK, F.S.B.  
WASHINGTON, D.C. 20038-0987

15-7011/2540

42120

3/1/2002

PAY TO THE  
ORDER OF

Commissioner Of the United States Patent And Trademark Office

\$ \*\*1,178.00

One Thousand One Hundred Seventy-Eight and 00/100\*\*\*\*\*

DOLLARS

Assistant Commissioner  
for Patents and Trademarks  
Washington  
D.C. 20231

P56668

MEMO

Box: Patent New Application - LYNN G. HILDEN - *Filing Fee.*

⑈042120⑈ ⑆254070116⑆ ⑈1510 4915⑈

SECURITY FEATURES INCLUDED. DETAILS ON BACK.

ROBERT E. BUSHNELL  
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CITIBANK, F.S.B.  
WASHINGTON, D.C. 20038-0987

15-7011/2540

42121

3/1/2002

PAY TO THE  
ORDER OF

Commissioner Of the United States Patent And Trademark Office

\$ \*\*40.00

Forty and 00/100\*\*\*\*\*

DOLLARS

Assistant Commissioner  
for Patents and Trademarks  
Washington  
D.C. 20231

P56668

MEMO

Box: Assignment - LYNN G. HILDEN

⑈042121⑈ ⑆254070116⑆ ⑈1510 4915⑈

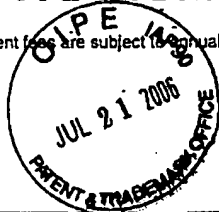
SECURITY FEATURES INCLUDED. DETAILS ON BACK.

ROBERT E. BUSHNELL

42121

# FEE TRANSMITTAL

Patent fees are subject to annual revision.



## Complete if Known

Application Number	To be Assigned
Filing Date	1 March 2002
First Named Inventor	LYNN G. HILDEN
Examiner Name	To be Assigned
Group/Art Unit	To be Assigned
Attorney Docket No.	P56668

TOTAL AMOUNT OF PAYMENT (\$)1,218.00

## METHOD OF PAYMENT (check one)

1. ☐ The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number: 02-4943

Deposit Account Number: \_\_\_\_\_

☐ Charge Any Additional Fee Required Under 37 C.F.R. §1.16 and 1.17.

☐ Applicant claims small entity status. See 37 CFR 1.27

## 2. ☒ Payment Enclosed: (CHECK #42120 & #42121)

☒ Check ☐ Credit Card ☐ Money Order ☐ Other

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity	Small Entity				
Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
101	740	201	370	Utility filing fee	\$740.00
106	330	206	165	Design filing fee	\$
107	510	207	255	Plant filing fee	\$
108	740	208	370	Reissue filing fee	\$
114	160	214	80	Provisional filing fee	\$
SUBTOTAL (1)					(\$) <u>740.00</u>

### 2. EXTRA CLAIM FEES

			Extra Claims	Fee from below	Fee Paid
Total claims	35	-20** =	15	x \$18.00	= \$270.00
Independent Claims	5	-3** =	2	x \$84.00	= \$168.00

Multiple Dependent =

\*\* or number previously paid, if greater; For Reissues, see below

Large Entity	Small Entity				
Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	
103	18	203	9	Claims in excess of 20	
102	84	202	42	Independent claims in excess of 3	
104	280	204	140	Multiple dependent claim, if not paid	
109	84	209	42	** Reissue independent claims over original patent	
110	18	210	9	** Reissue claims in excess of 20 and over original patent	

SUBTOTAL (2) (\$)438.00

## 3. ADDITIONAL FEES

Large Entity	Small Entity				
Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
105	130	205	65	Surcharge-late filing fee or oath	\$
127	50	227	25	Surcharge-late provisional filing fee or cover sheet	\$
139	130	139	130	Non-English specification	\$
147	2,520	147	2,520	For filing a request for reexamination	\$
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	\$
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	\$
115	110	215	55	Extension for reply within first month	\$
116	400	216	200	Extension for reply within second month	\$
117	920	217	460	Extension for reply within third month	\$
118	1,440	218	720	Extension for reply within fourth month	\$
128	1,960	228	980	Extension for reply within fifth month	\$
119	320	219	160	Notice of Appeal	\$
120	320	220	160	Filing a brief in support of an appeal	\$
121	280	221	140	Request for oral hearing	\$
138	1,510	138	1,510	Petition to institute a public use proceeding	\$
140	110	240	55	Petition to revive - unavoidable	\$
141	1,280	241	640	Petition to revive - unintentional	\$
142	1,280	242	640	Utility issue fee (or reissue)	\$
143	460	243	230	Design issue fee	\$
144	620	244	310	Plant issue fee	\$
122	130	122	130	Petitions to the Commissioner	\$
123	50	123	50	Petitions related to provisional applications	\$
126	180	126	180	Submission of Information Disclosure Statement	\$
581	40	581	40	Recording each patent assignment per property (Times number of properties)	\$40.00
146	740	246	370	Filing a submission after final rejection (37 C.F.R. §1.129(a))	\$
149	740	249	370	For each additional invention to be examined (37 C.F.R. §1.129(b))	\$
Other Fee (specify) _____					\$
Other Fee (specify) _____					\$

\*\* Reduced by Basic Filing Fee Paid

SUBTOTAL (3) \$40.00

## SUBMITTED BY

## Complete (if applicable)

Typed or Printed Name	Robert E. Bushnell, Esq.	Reg. Number	27,774
Signature		Date	1 March 2002
		Deposit Account User ID	



PATENT  
P56668

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

LYNN G. HILDEN - -

Serial No.: 10/085,069

Examiner: BERGIN, JAMES S.

Filed: 1 March 2002

Art Unit: 3641

For: RAPID DEFLAGRATION CORD (RDC) ORDNANCE TRANSFER LINES

AMENDMENT AND RESPONSE TO RESTRICTION REQUIREMENT

Paper No. 18

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the restriction requirement set forth in the Office action mailed on 19 May 2006 (Paper No. 20060514), Applicant submits the following:

**CERTIFICATE OF  
FACSIMILE TRANSMISSION**

I hereby certify that, on 19 June 2006, this correspondence is being facsimile transmitted to the U.S. Patent & Trademark Office (Facsimile No. 571-273-8300)

**Total 17 sheets**

For Robert E. Bushnell  
Reg. No. 27,774

Folio: P56668  
Date: 6/19/06  
I.D.: REB/kf

IN THE CLAIMS

Please add claims 66 and 67 as follows:

Claims 1-32 (canceled)

1           33 (previously presented): An ordnance energy transfer system, comprising:  
2           a rapid deflagrating cord extending from a first end and a second end of a transfer line, said  
3           rapid deflagrating cord having a burn a rate of 1000 to 1500 feet per second; and  
4           a first metal tubing hermetically encapsulating said rapid deflagrating cord from said first end  
5           to said second end of said transfer line, said first metal tubing being crimped at each end thereof,  
6           onto said transfer line at said first and second ends of said transfer line, to hold said rapid  
7           deflagration cord in place in said first metal tubing

1           34. (previously presented): The system of claim 33, further comprising a first end fitting  
2           disposed at said first end of said transfer line, said first end fitting having a first ferrule being welded  
3           to said first metal tubing at said first end of said transfer line to form a hermetic seal for said rapid  
4           deflagrating cord and for charges stored in said first end fitting during shelf life, installation and use  
5           preventing unwanted moisture from entering the system and preventing gases produced from said  
6           system from escaping.

1           35. (previously presented): The system of claim 34, said first ferrule being surrounded and  
2           attached to an annular sealing material that provides a hermetic seal for said first end fitting and said

3 rapid deflagrating cord when said first end fitting is installed inside a transfer manifold.

1 36. (previously presented) The system of claim 34, further comprising a second end fitting  
2 disposed at said second end of said transfer line, said second end fitting having a second ferrule  
3 connecting said second end of said transfer line to said second end fitting.

1 37. (previously presented) The system of claim 36, each respective ferrule being crimped  
2 to respective ends of said first metal tubing firmly pinching respective ends of said rapid deflagrating  
3 cord into respective ones of the first and second end fittings.

1 38. (previously presented) The system of claim 34, said first ferrule having a booster charge  
2 stored therein, said first ferrule being laser beam welded to a rim of a first closure cup, said first  
3 closure cup facing away from said booster charge, said laser beam welding allowing stainless steel  
4 from said first closure cup and said first ferrule to mix and to serve as a donor of steel to said laser  
5 beam weld providing a strong attachment between said first closure cup and said first ferrule.

1 39. (previously presented) The system of claim 38, a bottom surface of said first closure cup  
2 being coined wherein portions of said bottom surface have a thickness less than 0.0025 inches where  
3 other portions of said bottom surface having a thickness of at least 0.003 inches.

1 40. (previously presented) The system of claim 33, said first metal tubing being stainless  
2 steel and having an inner diameter of 0.062 inches and an outer diameter of 0.094 inches allowing  
3 said first metal tubing to be semi flexible.

1           41. (previously presented) The system of claim 33, said rapid deflagrating cord having a  
2 diameter of 0.050 inches. -

1           42. (previously presented) The system of claim 33, said rapid deflagrating cord comprising:  
2 a rapid deflagration material of  $\text{Cs}_2\text{B}_{12}\text{H}_{12}$  mixed with  $\text{KNO}_3$ ; and  
3 a metal encasement surrounding said rapid deflagration material, said metal encasement  
4 having a diameter of 0.050 inches.

1           43. (previously presented) The system of claim 38, said first ferrule having a spit hole along  
2 a central axis thereof, said spit hole being bounded on a first side by said rapid deflagrating cord and  
3 being bounded on a second side by a booster charge, said spit hole enabling and end of said rapid  
4 deflagrating cord to energize said booster charge to blow apart said first closure cup or to allow said  
5 booster charge to start the burning of said rapid deflagrating cord.

1           44. (previously presented) The system of claim 34, said first end fitting being one of a  
2 percussion primer end fitting, a detonating high energy end fitting and a low energy end fitting.

1           45. (previously presented) The system of claim 36, said second end fitting being one of a  
2 percussion primer end fitting, a detonating high energy end fitting and a low energy end fitting, when  
3 said first end fitting is the detonating high energy end fitting or the low energy end fitting.

1           46. (previously presented) The system of claim 36, said first end fitting being one of a



2 percussion primer end fitting, a detonating high energy end fitting and a low energy end fitting, and  
3 said second end fitting being one of a detonating high energy end fitting and a low energy end fitting.

1 47. (previously presented) The system of claim 36, said first or second end fitting being a  
2 percussion primer end fitting comprising:

3 a ferrule having a crimped portion crimped at a first end of said ferrule over the crimped  
4 portion of said first metal tubing, an annular groove disposed at a second end of said ferrule, and an  
5 O-ring disposed in said annular groove;

6 a B-nut disposed over said first end of said ferrule for firmly holding said ferrule in place on  
7 said first metal tubing;

8 a percussion primer disposed in a compartment in said second end of said ferrule; and

9 a closure disk disposed over said percussion primer and closing said compartment, said  
10 closure disk being formed of stainless steel of sufficient thickness to permit said percussion primer  
11 to ignite when said closure disk is struck by a firing pin.

1 48. (previously presented) The system of claim 47, further comprising a plastic cap  
2 removably disposed over said closure disk, said second end of said ferrule and a threaded portion  
3 of said B-nut, said plastic cap serving to protect the percussion primer end fitting during shelf life  
4 and during transportation, said plastic cap being removed to permit said threaded portion of said B-  
5 nut to be threaded into a transfer manifold to enable said percussion primer to be ignited.

1 49. (previously presented) The system of claim 48, said O-ring being made of silicone rubber  
2 and forms a hermetic seal between said ferrule and said transfer manifold.

1           50. (previously presented) The system of claim 36, said first or second end fitting being a  
2 low energy deflagrating end fitting comprising:

3           a ferrule having a crimped portion crimped at a first end of said ferrule over the crimped  
4 portion of said first metal tubing, an annular groove disposed at a second end of said ferrule, said  
5 second end of said ferrule having predetermined slanted portion, wherein said annular groove is  
6 formed in said predetermined slanted portion of said second end of said ferrule, and an O-ring  
7 disposed in said annular groove;

8           a low energy booster charge disposed in a void formed along a central axis of said second  
9 end portion of said ferrule;

10          a spit hole formed along a central axis of a middle portion of said ferrule and separating said  
11 rapid deflagrating cord from said low energy booster charge;

12          a closure cup fitted into said void for closing said void, said closure cup having a rim welded  
13 to said second end of said ferrule; and

14          a B-nut disposed over part of said first end of said ferrule, for firmly holding said ferrule in  
15 place on said first metal tubing, and over said middle portion and a part of said second end of said  
16 ferrule.

1           51. (previously presented) The system of claim 50, further comprising an end cap removably  
2 disposed over said closure cup, said second end of said ferrule and a threaded portion of said B-nut,  
3 said end cap serving to protect the low energy deflagrating end fitting during shelf life and during  
4 transportation, said end cap being removed to permit said threaded portion of said B-nut to be  
5 threaded into a transfer manifold.

1           52. (previously presented) The system of claim 36, said first or second end fitting being a  
2     detonating high energy end fitting comprising:

3           a ferrule having a crimped portion crimped at a first end of said ferrule over the crimped  
4     portion of said first metal tubing, an annular groove disposed around a middle portion of said ferrule,  
5     and an O-ring disposed in said annular groove;

6           a special silicone rubber seal annularly disposed around a first portion of a second end of said  
7     ferrule;

8           a stainless steel interface retainer having an annular shape and disposed around a second  
9     portion of said second end of said ferrule between said O-ring and said special silicone rubber seal,  
10    a rim of the stainless steel interface retainer being welded to the ferrule;

11          a closure cup having a rim welded to an outside annular surface of said ferrule directly  
12    underneath said stainless steel retainer;

13          a high energy detonation charge and a lead azide booster charge disposed said closure cup,  
14    said lead azide booster charge being disposed between said second end portion of said ferrule and  
15    said high energy detonation charge;

16          a spit hole formed along a central axis of said second end of said ferrule and separating said  
17    rapid deflagrating cord from said lead azide booster charge; and

18          a B-nut disposed over part of said first end of said ferrule, for firmly holding said ferrule in  
19    place on said first metal tubing, and over said middle portion, a part of said second end of said  
20    ferrule and part of said stainless steel interface retainer.

1           53. (previously presented) The system of claim 52, further comprising an end cap removably

2 disposed over said closure cup, said second end of said ferrule and a threaded portion of said B-nut,  
3 said end cap serving to protect the detonating high energy end fitting during shelf life and during  
4 transportation, said end cap being removed to permit said threaded portion of said B-nut to be  
5 threaded into a transfer manifold.

1 54. (previously presented) An ordnance energy transfer system, comprising a transfer line,  
2 said transfer line including:

3 an aluminum tube;

4 a rapid deflagrating material filling said aluminum tube, said rapid deflagrating material  
5 having a burn a rate of 1000 to 1500 feet per second;

6 a semi-flexible stainless steel tube centrally disposed over said aluminum tube, said stainless  
7 steel tube being shorter in length than said aluminum tube, each end portion of said stainless steel  
8 tube being crimped onto said aluminum tube to hold said aluminum tube in place, wherein in inner  
9 surface area of the non-crimped portion of said stainless steel tube is separated from said aluminum  
10 tube by 0.006 inches.

1 55. (previously presented) The system as set forth in claim 54, said aluminum tube having  
2 an outer diameter of 0.050 inches.

1 56. (previously presented) The system as set forth in claim 54, said stainless steel tube  
2 having an inner diameter of 0.062 inches and an outer diameter of 0.094 inches.

1 57. (previously presented) The system as set forth in claim 54, further comprising:

2 a first end fitting disposed at a first end of said transfer line; and  
3 a second end fitting disposed at a second end of said transfer line, said first end fitting being  
4 one of a percussion primer end fitting, a detonating high energy end fitting and a low energy end  
5 fitting, and said second end fitting being one of a detonating high energy end fitting and a low energy  
6 end fitting.

1 58. (previously presented) The system as set forth in claim 57, said percussion primer end  
2 fitting comprising:

3 a ferrule having a crimped portion crimped at a first end of said ferrule over the crimped  
4 portion of said first metal tubing, an annular groove disposed at a second end of said ferrule, and an  
5 O-ring disposed in said annular groove;

6 a B-nut disposed over said first end of said ferrule for firmly holding said ferrule in place on  
7 said first metal tubing;

8 a percussion primer disposed in a compartment in said second end of said ferrule; and

9 a closure disk disposed over said percussion primer and closing said compartment, said  
10 closure disk being formed of stainless steel of sufficient thickness to permit said percussion primer  
11 to ignite when said closure disk is struck by a firing pin.

1 59. (previously presented) The system as set forth in claim 58, further comprising a plastic  
2 cap removably disposed over said closure disk, said second end of said ferrule and a threaded portion  
3 of said B-nut, said plastic cap serving to protect the percussion primer end fitting during shelf life  
4 and during transportation, said plastic cap being removed to permit said threaded portion of said B-  
5 nut to be threaded into a transfer manifold to enable said percussion primer to be ignited..

1           60. (previously presented) The system as set forth in claim 57, said low energy deflagrating  
2 end fitting comprising:

3           a ferrule having a crimped portion crimped at a first end of said ferrule over the crimped  
4 portion of said first metal tubing, an annular groove disposed at a second end of said ferrule, said  
5 second end of said ferrule having predetermined slanted portion, wherein said annular groove is  
6 formed in said predetermined slanted portion of said second end of said ferrule, and an O-ring  
7 disposed in said annular groove;

8           a low energy booster charge disposed in a void formed along a central axis of said second  
9 end portion of said ferrule;

10          a spit hole formed along a central axis of a middle portion of said ferrule and separating said  
11 rapid deflagrating material from said low energy booster charge;

12          a closure cup fitted into said void for closing said void, said closure cup having a rim welded  
13 to said second end of said ferrule; and

14          a B-nut disposed over part of said first end of said ferrule, for firmly holding said ferrule in  
15 place on said first metal tubing, and over said middle portion and a part of said second end of said  
16 ferrule.

1           61. (previously presented) The system as set forth in claim 60, further comprising an end cap  
2 removably disposed over said closure cup, said second end of said ferrule and a threaded portion of  
3 said B-nut, said end cap serving to protect the low energy deflagrating end fitting during shelf life  
4 and during transportation, said end cap being removed to permit said threaded portion of said B-nut  
5 to be threaded into a transfer manifold.

1           62. (previously presented) The system as set forth in claim 57, said detonating high energy  
2 end fitting comprising:

3           a ferrule having a crimped portion crimped at a first end of said ferrule over the crimped  
4 portion of said first metal tubing, an annular groove disposed around a middle portion of said ferrule,  
5 and an O-ring disposed in said annular groove;

6           a special silicone rubber seal annularly disposed around a first portion of a second end of said  
7 ferrule;

8           a stainless steel interface retainer having an annular shape and disposed around a second  
9 portion of said second end of said ferrule between said O-ring and said special silicone rubber seal,  
10 a rim of the stainless steel interface retainer being welded to the ferrule;

11          a closure cup having a rim welded to an outside annular surface of said ferrule directly  
12 underneath said stainless steel retainer;

13          a high energy detonation charge and a lead azide booster charge disposed said closure cup,  
14 said lead azide booster charge being disposed between said second end portion of said ferrule and  
15 said high energy detonation charge;

16          a spit hole formed along a central axis of said second end of said ferrule and separating said  
17 rapid deflagrating material from said lead azide booster charge; and

18          a B-nut disposed over part of said first end of said ferrule, for firmly holding said ferrule in  
19 place on said first metal tubing, and over said middle portion, a part of said second end of said  
20 ferrule and part of said stainless steel interface retainer.

1           63. (previously presented) The system as set forth in claim 62, further comprising an end cap

2 removably disposed over said closure cup, said second end of said ferrule and a threaded portion of  
3 said B-nut, said end cap serving to protect the detonating high energy end fitting during shelf life and  
4 during transportation, said end cap being removed to permit said threaded portion of said B-nut to  
5 be threaded into a transfer manifold.

1 64. (previously presented) The system as set forth in claim 54, said rapid deflagrating  
2 material comprising  $\text{Cs}_2\text{B}_{12}\text{H}_{12}$  mixed with  $\text{KNO}_3$ .

1 65. (previously presented) The system as set forth in claim 60, said low energy booster  
2 charge comprising  $\text{Cs}_2\text{B}_{12}\text{H}_{12}$  mixed with  $\text{KNO}_3$ .

1 66. (New) The system of claim 33, with said first metal tube comprising an aluminum tube,  
2 and a semi-flexible stainless steel tube centrally disposed over said aluminum tube, said stainless  
3 steel tube being shorter in length than said aluminum tube, each end portion of said stainless steel  
4 tube being crimped onto said aluminum tube, an inner surface area of a non-crimped portion of said  
5 stainless steel tube being separated from said aluminum tube.

1 67. (New) The system of claim 53, with said first metal tube comprising an aluminum tube,  
2 and a semi-flexible stainless steel tube centrally disposed over said aluminum tube, said stainless  
3 steel tube being shorter in length than said aluminum tube, each end portion of said stainless steel  
4 tube being crimped onto said aluminum tube, an inner surface area of a non-crimped portion of said  
5 stainless steel tube being separated from said aluminum tube.



**REMARKS**

**Status of Claims**

Claims 33 through 67 are pending in the application; dependent claims 66 and 67 are newly presented. Claims 1 through 32 have been previously canceled without prejudice or disclaimer of its subject matter.

**Requirement for Restriction Under 37 CFR §1.142**

In the Office action mailed on 19 May 2006 (Paper No. 20060514), the Examiner required a restriction between:

- Group I. Claims 33 through 53 drawn to an RDC cord hermetically encapsulated in a metal tubing, classified in Class 102, subclass 275.1; and
- Group II. Claims 54 through 65, drawn to an RDC cord filling an aluminum tube, a surrounding stainless steel tube, classified in Class 102, subclass 275.1.

Applicant respectfully traverses the election requirement imposed in the Office action, but provisionally elects Group II.. Claims 54 through 67 are all within elected Group II.

Applicant objects to and traverses the restriction requirement on the grounds that the subject matter of the two groups overlap. In addition, the mandatory fields of search for the two embodiments are coextensive. Finally, it appears that the restriction requirement is being imposed merely for administrative convenience, and such a basis for imposition of a restriction requirement has been prohibited in previous decisions of the Commissioner.

It is submitted that search of the U.S. Patent Collection produced the following partial list of recent U.S. patent issued which are in fact classified in both Class 102, subclass 275.1 and Class 102, subclass 275.1 with aluminum:

**Results of Search in U.S. Patent Collection db for:**

(CCL/102/275.1 AND aluminum): 27 patents.

Hits 1 through 27 out of 27

	PAT. NO.	Title
1.	6,834,594	Tubular gas generator
2.	6,688,231	Cord-type gas generator
3.	6,647,887	Linear ignition fuze with shaped sheath
4.	6,536,798	Controlling activation of restraint devices in a vehicle
5.	6,467,415	Linear ignition system
6.	6,386,085	Method and apparatus for explosives assembly
7.	6,272,996	In-line initiator and firing device assembly
8.	6,247,410	High-output insensitive munition detonating cord
9.	6,006,671	Hybrid shock tube/LEDC system for initiating explosives
10.	5,827,994	Fissile shock tube and method of making the same
11.	5,540,154	Non-pyrolizing linear ignition fuse
12.	5,473,987	Low energy fuse
13.	5,285,728	Successive-actuation device, using pyrotechnic cord
14.	5,277,120	Extended charge cartridge assembly
15.	5,181,737	Safety apparatus for vehicle occupant
16.	5,101,729	Low energy fuse
17.	5,005,694	System for packaging detonating cord for transport
18.	4,917,017	Multi-strand ignition systems
19.	4,838,165	Impeded velocity signal transmission line
20.	4,819,612	Self-heating container
21.	4,756,250	Non-electric and non-explosive time delay fuse
22.	4,716,832	High temperature high pressure detonator
23.	4,660,474	Percussion or impact wave conductor unit
24.	4,608,113	Waterproof quick match and apparatus and method of forming same
25.	4,542,695	Contoured configured detonating cord and detonator
26.	4,488,486	Low brisance detonating cord
27.	4,432,268	Detonation cut-off device

The entirety of class 102, subclass 275.1 is approximately forty-five (45) U.S. Patent references. The foregoing listing of art included within Group II demonstrates both the lack of burden upon the Examining staff in making a simultaneous search of both Groups I and II, and the absence of evidence that Groups I and II are distinct. As specifically stated in MPEP §803, in imposing a

restriction requirement, the Examiner must show that: (A) the inventions are independent (*see* MPEP §802.01, §806.04, §808.01) or distinct as claimed (*see* MPEP §806.05 - §806.05(i)); **and** (B) there will be a **serious burden** on the Examiner if the restriction requirement is not imposed (*see* MPEP §803.02, §806.04(a) - §806.04(i), §808.01(a), and §808.02). It is respectfully submitted that there would **not be a serious burden** upon the Examiner in searching Groups I and II.

Firstly, the Examiner has failed to show any type of burden, much less a serious burden, in the absence of a restriction requirement. In particular, not only has the Examiner failed to show that the search would impose a burden, but also the Examiner has failed to show that any burden would rise to the level of a serious burden. As stipulated in MPEP §803, if the search can be made without serious burden, the Examiner **must examine the application on the merits**, even if there are separate and distinct inventions. The Examiner has not alleged any serious burden in the Office action mailed on 19 May 2006 (Paper No. 20060514) and thus the Examiner must examine the entire application. Moreover, because no burden was shown, if the restriction is not withdrawn in the next Office action, the restriction requirement cannot be made final according to MPEP §706.07.

Secondly, whereas the Examiner has stated that the invention of claims 33 through 53 is classified in Class 102, Subclass 275.1, and that the invention of claims 54 through 65 is also classified in Class 102, Subclass 275.1 but with an aluminum element, it is submitted that, in order to perform a comprehensive search, the Examiner is going to be compelled to perform some searching in Class 102. Thus, the fields of search are coextensive with respect to the two groups of claims, and therefore the restriction requirement serves no purpose other than to impose an undue burden and unnecessary expense upon the Applicants (*see* MPEP §802.01, §806.04, §808.01).

Thirdly, MPEP §806.03 states that:

“Where the claims of an application define the same essential characteristics of a *single* disclosed embodiment of an invention, restriction therebetween should never be required. This is because the claims are but different definitions of the same disclosed subject matter, varying in breadth or scope of definition” (emphasis supplied).

Why, then has this prohibition been violated in the above-captioned application where a single embodiment has been disclosed? That fact that Applicant's claims are very broad in scope, and cover a plethora of implementations of the principles of Applicant's inventions, is not a basis for violating this prohibition against restriction. Withdrawal of this requirement is therefore respectfully urged.

For the above reasons, it is respectfully submitted that the restriction requirement is unnecessary, is not in accordance with the Rules of Practice or the MPEP, and constitutes the imposition of an undue burden and unfair expense upon the Applicants. Therefore, the restriction requirement should be withdrawn.

If the requirement for restriction is not withdrawn, then the Applicants reserve the right to file a Petition to the Commissioner because there is no *serious* burden upon the Examiner in searching the invention of Group I and Group II.

In view of the above, it is requested that the restriction requirement be withdrawn. It is further submitted that the application is in condition for examination on the merits, and early allowance is requested.

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In view of the filing of the present application with thirty-five (35) claims on 1 March 2002, of which five (5) claims are independent, addition of new dependent claims 66 and 67 by this Amendment/Response does *not* incur additional fee. Accordingly, please **DO NOT** charge the Deposit Account of Applicant's undersigned attorney for newly added claims 66 and 67.

Respectfully submitted,

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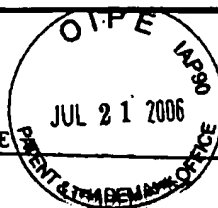
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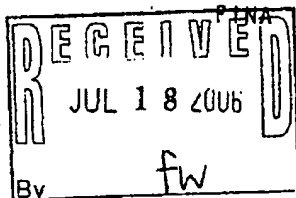


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